

## VEHICLE TECHNOLOGIES PROGRAM

# Ford Escape Advanced Research Fleet

Number of vehicles: 21 Date range of data received: 01/01/2011 to 09/30/2011

Reporting period: Jan 11 - Sept 11 Number of vehicle days driven: 2,438

### All Trips Combined

Overall gasoline fuel economy (mpg)	39
Overall AC electrical energy consumption (AC Wh/mi) <sup>1</sup>	100
Overall DC electrical energy consumption (DC Wh/mi) <sup>2</sup>	67
Total number of trips	11,142
Total distance traveled (mi)	137,741

# Trips in Charge Depleting (CD) mode<sup>3</sup>

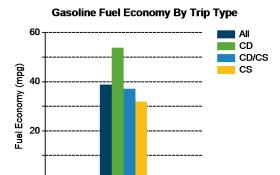
Gasoline fuel economy (mpg)	54
DC electrical energy consumption (DC Wh/mi) <sup>4</sup>	162
Number of trips	6,458
Percent of trips city   highway	84%   16%
Distance traveled (mi)	39,650
Percent of total distance traveled	29%

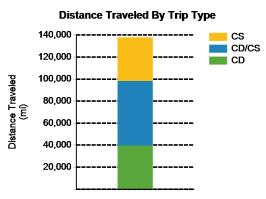
### Trips in both Charge Depleting & Charge Sustaining (CD/CS) modes<sup>5</sup>

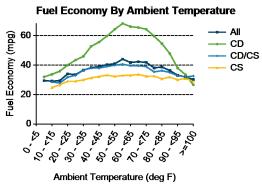
Gasoline fuel economy (mpg)	37
DC electrical energy consumption (DC Wh/mi) <sup>6</sup>	51
Number of trips	2,220
Percent of trips city   highway	38%   62%
Distance traveled (mi)	58,472
Percent of total distance traveled	42%

### Trips in Charge Sustaining (CS) mode<sup>7</sup>

Gasoline fuel economy (mpg)	32
Number of trips	2,462
Percent of trips city   highway	64%   36%
Distance traveled (mi)	39,619
Percent of total distance traveled	29%







Notes: 1 - 7. Please see http://avt.inl.gov/pdf/phev/fordreportnotes.pdf for an explanation of all PHEV Fleet Testing Report notes.

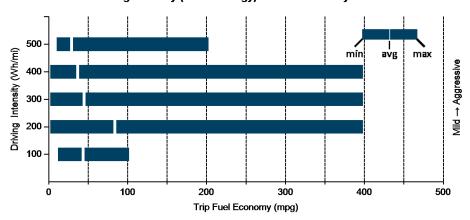
Since these vehicles are flex-fuel capable, some driving events are conducted with E-85, which may decrease fuel economy results

"The Ford Escape Advanced Research Fleet was designed as a demonstration of customer duty cycles related to plug-in electric vehicles. The vehicles used in this demonstration have not been optimized to provide the maximum potential fuel economy."



Trips in Charge Depleting (CD) mode	City	Highway		
Gasoline fuel economy (mpg)	50	59		
DC electrical energy consumption (DC Wh/mi)	159	165		
Percent of miles with internal combustion engine off	39%	11%		
Average trip driving intensity (Wh/mi)	271	308		
Average trip distance (mi)	4	19		
Trips in Charge Depleting and Charge Sustaining (CD/CS) mode				
Gasoline fuel economy (mpg)	41	37		
DC electrical energy consumption (DC Wh/mi)	66	49		
Percent of miles with internal combustion engine off	29%	5%		
Average trip driving intensity (Wh/mi)	280	326		
Average trip distance (mi)	9	37		
Trips in Charge Sustaining (CS) mode				
Gasoline fuel economy (mpg)	30	32		
Percent of miles with internal combustion engine off	21%	4%		
Average trip driving intensity (Wh/mi)	270	322		
Average trip distance (mi)	4	37		

# Effect Of Driving Intensity (Wheel Energy) on Fuel Economy This Month



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80 - <100

Trip Fuel Economy (mpg)

100 - <120 120 - <140

**Trip Fuel Economy Distribution By Trip Type** 



0 - <20

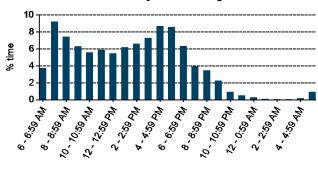
20 - <40

40 - <60

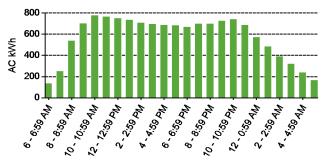
# Plug-in charging

Average number of charging events per vehicle per month when driven	34	
Average number of charging events per vehicle per day when driven	2.4	
Average distance driven between charging events (mi)	23.8	
Average number of trips between charging events	1.9	
Average time plugged in per charging event (hr)	6.9	
Average time charging per charging event (hr)	1.7	
Average energy per charging event (AC kWh)	2.4	
Average charging energy per vehicle per month (AC kWh)	82.2	
Total number of charging events	5,781	
Total charging energy (AC kWh)	13,816	





## **Time of Day When Charging**



### Time of Day When Plugging In

